Introduction

Most doctors are probably conscious of using metaphors with patients, and may indeed have one or two well-tried analogies. However, few probably understand the extent to which metaphors condition the ways that people conceptualise and make sense of the world.

There are two contrasting ways of thinking about metaphors. One is to regard them as conscious attempts to render something vivid. The other is to note that languages use so-called ‘dead metaphors’ all the time. Thus academics ‘construct’ hypotheses while time ‘flies’, or ‘crawls’, or just ‘passes’. We are not consciously aware of these. However, there is linguistic and neuropsychological evidence that everyday language is substantially constructed on metaphoric principles. Therefore, the term ‘dead’ does not mean that the metaphors lack power to influence us. Rather, languages have ‘conceptual metaphors’ which exemplify profound truths about the way we perceive the world. These are conventionally noted in the form ‘A is B’ — the body is a container for the self — or ‘he withdrew into himself’, ‘he’s thick-skinned’, and so on. A ‘master list’ of conceptual metaphors is accessible on the Internet.

This present study looks at both approaches to metaphor, but it should be borne in mind that these are held to operate in different ways.

Incidentally, similes are normally distinguished from metaphors only by the presence of the word ‘like’, or its equivalent: the distinction is seldom relevant. In this paper, ‘metaphor’ covers both similes and metaphors.

There is a recent, approachable, review by Cameron and Low of issues in metaphor study. Within science, metaphor is acknowledged as playing a part in the construction of theory and in the often pictorial and aesthetic imagination at work in, for example, the labelling of things. Within the health sciences there is a substantial literature on the way in which psychiatry images the mind. The best-known study of metaphor in medicine is Sontag’s polemic on those surrounding cancer and AIDS: she argues that metaphors should not be used to describe illness since they are ‘untruthful’. There is also a narrative study of patients (based on recall rather than consultation data) which concludes that while patients think broadly of ‘illness’ rather than ‘disease’, they can ‘actively relate to and make sense of the disease model’. The general way in which illness metaphors point up the distinction between the Cartesian dualism of the professional and the holism of the patient is well discussed in Helman and Gwyn: the former also discusses cultural variation, while the latter has an interesting critique of
Sontag.

If metaphors are indeed the embodiment of experience rather than, or as well as, surface analogies for the sake of lucidity, an understanding of metaphor is as important for doctors as is an understanding of patient health beliefs.

Method

This study is part of a larger project exploring the language of the general practice consultation. Forty general practitioners (GPs) from 21 practices in the West Midlands region of the UK audiotaped consecutive consultations. All practices agreed to participate and individual GPs volunteered to have their surgeries recorded. Patients gave written consent or declined to participate on arrival for their appointment. Consultations were transcribed verbatim and imported into the lexical concordancing program, ‘Cobuild’ (details of the software are described elsewhere19). The final database consisted of 373 consultations. GPs were of differing levels of experience (from GP registrars in their training year to established principals); 28 were male and 12 were female.

Concordancing programs interrogate large databases of text for the presence or absence of words or phrases, and the context in which they appear. The basic computer output (Figure 1) can be manipulated with respect to length of context. The word or phrase around which the search is made is termed the ‘node’ or ‘nodal expression’.

The identification of metaphors is controversial, and it follows that any claim to precision is dangerous. A common definition is that a metaphor is ‘the act or process of denoting one concept (the tenor) with a sign conventionally tied to the context in which they appear’.14 The lexical concordancing program interrogate large databases of text for the presence or absence of words or phrases, and the context in which they appear. The basic computer output (Figure 1) can be manipulated with respect to length of context. The word or phrase around which the search is made is termed the ‘node’ or ‘nodal expression’.

The identification of metaphors is controversial, and it follows that any claim to precision is dangerous. A common definition is that a metaphor is ‘the act or process of denoting one concept (the tenor) with a sign conventionally tied to another (the vehicle)’.14 But although there are statements which are clearly metaphors (‘Peter is Newton reincarnate’) and statements which clearly are not (‘Peter is clever’), there are gradations between that cannot be resolved with certainty (‘Peter is quick’/quick-thinking/quick-witted/quick on the uptake/quick on his feet’). This is clearly a matter of subjective impression.

Searching for metaphors

Search terms are called ‘nodes’. Likely metaphoric nodes were identified by the research team (see (i) to (iii) below). Using these words or phrases, the data was trawled and the resulting text strings examined. This process identified clear metaphors and suggested other search nodes. This iterative process bears some similarity to aspects of qualitative methodology and, as in general with qualitative study, statements about frequency are best regarded as approximations.

i) Comparators. The program was queried for contexts in which the following three comparators appeared: ‘as if’, ‘as though’, and ‘like’. This yielded examples of similes, such as: ‘[the swelling] makes me look as if I’m about four months pregnant’, or ‘[the pain] feels as though somebody’s hit me’ (nodal expression in italics). The use of explicit comparators in this way was selected to identify clearly metaphorical uses which could then act as a springboard for identifying other key words and phrases.

ii) Verbs of feeling and describing. From the results of (i) it was hypothesised that verbs such as ‘feel’, ‘look’, ‘resemble’, ‘describe’ (‘look like’ and ‘be like’) were already identified under step (i) would yield further, relatively explicit, metaphors; for example, ‘I can feel it sort of aching and burning’. Verbs of this sort were identified using a functional approach.15

iii) The verb ‘to be’. For simplicity, this was considered last, since it was recognised that there would be many thousands of lines of text, in the expectation that many key decisions and examples would already be identified.

For each of the search groups, (i) to (iii) above, a three-stage process was undertaken:

1. The individual lines of text (node plus context) were assessed using criteria derived from Cameron. A metaphor was thus recognised if there was (a) ‘reference to a topic domain by a vehicle term’; (b) ‘potential
incongruity between the domains of vehicle and tenor, and (c) a ‘coherent interpretation’ was possible. This results in, for example, the phrases quoted in (i) above.

2. Such phrases were then in turn selected as node expressions, to see whether there were other examples of them being used metaphorically. Thus, ‘pregnant’ and ‘hit’ became node terms, and all occurrences were studied.

3. These other occurrences were then assessed against Cameron’s criteria. For instance, with the two examples given, we considered whether other uses of ‘pregnant’ and ‘hit’ were metaphorical: there were no other metaphorical uses of ‘pregnant’, but several of ‘hit’.

All identified metaphors were then grouped or themed as seemed appropriate. This process was shared by members of the research team and agreed by consensus.

Analysis

Though concordancing programs readily give quantitative information, standard statistical tests are used relatively infrequently, as language is not random data. For this reason, quantities in this paper are given simply in terms of the number of occurrences per million words. Patients in the database sometimes had a companion; for example, a mother with a young child. Unless the contrary is clear, the word ‘patient’ is used to mean ‘lay participant’.

Results

The mean number of words per consultation was 1742 (total number of words = 649,692). The mean number of words spoken by different parties per consultation was: doctors 933 (54%), patients 794 (46%) — other parties; for example, nurses, contributed less than 1%. The number of metaphors identified was 965. A further 904 uses of words around the concept of ‘problem’ were identified but not counted as metaphors, though often the word ‘problem’ itself seemed to have the metaphorical sense of ‘puzzle’.

Figures are adjusted for the greater frequency of doctor language in the database: all figures are quoted as occurrences per million words (pmw). The Kruskal–Wallis test showed that there were no significant differences between the doctors and their use of a particular metaphor.

There were some clear distinctions between doctor and patient metaphors as well as those shared by both, though with difference in detail (Tables 1 and 2).

Doctor metaphors

An illness is a puzzle. Doctors were more likely to speak of ‘problems’ (doctors = 1627 pmw, patients = 901 pmw), of ‘answers’ or ‘solutions’ (doctors = 121 pmw, patients = 54 pmw), and of ‘cases’ (doctors = 34 pmw, patients = 3 pmw).

A doctor is someone who controls (not cures) diseases. Doctors used the word ‘cure’ only eight times (23 pmw), and on five of these occasions it was to deny the possibility of cure; for example, ‘it’s not a miracle cure’, or ‘veins are not a terribly good hunting ground for cures’. The concept of making better or of getting better was the more likely phrase (doctors = 190 pmw, patients = 61 pmw). However, doctors were most likely to talk of ‘controlling’ disease (doctors = 221 pmw, patients = 64 pmw).

The body is a machine. Examples of machine metaphors were all weighted in favour of the doctor. The urinary tract was the ‘waterworks’ (doctors = 20 pmw, patients = 7 pmw), the body itself was a ‘system’ (doctors = 63 pmw, patients = 17 pmw). Thus, tranquillisers ‘affect what is a finely balanced system’. Bodies could be ‘repaired’ (doctors = 14 pmw: unattested in patient language) as a result of surgery, back pains could be ‘mechanical’ (a single doctor use, 3 pmw), and arthritic joints suffered ‘wear and tear’ (doctors = 20 pmw, patients = 3 pmw).

Patient metaphors

The body is a container for the self. In all but one case, examples where selfhood was pictured as being inside the body are patient metaphors, the exception being the phrase ‘in yourself/myself’ — for example: ‘How are you in yourself?’ (doctors = 95 pmw, patients = 51 pmw). Patient metaphorical uses were either expressive and idiosyncratic (‘[her temper’s] like Satan’s got into her’) or described psychological wellbeing with reference to physiology (‘my body seems full of nerves’).

An illness is beyond description. On 13 occasions (therefore 44 pmw) patients introduce a metaphor by apologising for their inability to describe or explain their sensations. The effort to do so produces a wide array of vivid metaphors (Table 3). A sense of being out of touch, for example, is described as ‘I’m the cotton wool man’. Pain was described as torture — for example, a patient who ascribed the ‘burning’ sensation to the baby in the womb expanded the metaphor: ‘…burning, I know what it’s like, it’s like a Chinese burn, it just gets tighter and tighter … a twisting pain’.

Metaphors equally distributed between doctors and patients

Illness is an attack. Illness ‘attacks’ the body (doctors = 126 pmw, patients = 125 pmw): in these data, ‘panic attacks’ or ‘anxiety attacks’, asthma and ‘heart attacks’ were particularly mentioned. On three occasions, patients described pain as ‘killing’: the word ‘painkiller(s)’ occurred 51 times, or 78 pmw (doctors = 80 pmw, patients = 78 pmw). One patient who talked of urinary tract infection (UTI) symptoms as ‘burning’ said ‘it’s like you know somebody’s hit you’. Another, recovering from pleurisy, said ‘I still get aches as though I’ve been pummelled’. Examples of ‘battle/defence/fight’ occurred at 23 pmw (doctors = 26 pmw, patients = 20 pmw) Adjectives for pain were used very differently (Box 1).

Illness is fire. Certain conditions are liable to be ‘inflamed’ (doctors = 201 pmw, patients = 47 pmw), though both doctors and patients speak of ‘flaring up’ (doctors = 26 pmw, patients = 24 pmw). ‘Burning’ pain for the doctor referred only to the pains of UTI and reflux. Patients used it more widely, and on two occasions a patient rejected doctors’
suggestions that UTI pain was ‘burning’ (Table 1).

The physical is the psychological and vice versa. There was disagreement between doctor and patient about the vocabulary of psychological unease. The fundamental metaphors were to do with ‘nerves’, ‘tension’, spatial orientation (‘high’, ‘low’, ‘up’, ‘down’) and ‘pressure’. The latter two were evenly distributed, the first two were not (Table 2). It is worth noting that on the only (three) occasions when the doctor used ‘pressure’, it was in the context that he or she was under pressure. Similarly, on the three occasions when patients used ‘nerves’ literally, he or she was simply reporting the words of another doctor.

### Discussion

Metaphors are exceptionally difficult to identify with certainty and any claim to precision should be regarded with scepticism. Moreover, within the confines of this brief study, two general approaches to metaphor have been drawn together. One argues that metaphors are relatively vivid, selected by speakers for effect: the other argues that metaphors are built into human cognition, often in ways which are not vivid. The patient who describes migraine as like ‘look[ing] into the sun’ (Box 1) and the doctor who talks about ‘heart attacks’ exemplify these views.

The existence of some of these metaphors is well known. In particular, the range of metaphors surrounding psychological distress is standard, as is the notion of illness as battle, from such dead metaphors as ‘painkillers’ and ‘heart attack’ to the clichés of the obituary column: ‘He died after a brave battle’. Such metaphors support an essentially allopathic view of medicine, in which the body may be invaded by foreign bodies, or rebel against itself. The related metaphor, of the body as a state (and of the state as ‘the body politic’) is at least as old as Hobbes.18

Within familiar metaphors, however, there may be surprises. Metaphors of pain are used differently, with doctors tending to reject the more vivid sharp/dull metaphor in favour of the concept of ‘severity’, and restrict the concept of ‘burning’ pain to refer, specifically and quasi-technically, to reflux or urinary tract infection.

The notion of the body as the container of selfhood is of particular interest. Doctors’ more literal use might casually be interpreted as a medical attempt to repackage the psychological as the mechanical. In fact, there are, as we have seen, three occasions (9 pmw) when a doctor, picking up this difficult topic,19 goes to the trouble of explaining a link between body and self. Nevertheless, on the whole, a central difference between doctors and patients appears to be that doctors use a greater frequency of metaphors to do with machines. Similarly, doctors talk of themselves as solvers of problems and controllers of illness, metaphors which hint at knowledge and power in obvious ways.

Patients employ a wider range of metaphors, often quite dramatic, to describe their problems. This may be a desire to legitimise their presence in the surgery by rendering problems more graphic, or an attempt to articulate difficult and nebulous thoughts and sensations. The picture here is of patients coming to the surgery with a range of vivid, particular, and personal descriptions and of doctors reinterpreting these as emotionally neutral problems of a general, de-personalised type.

Patients may be reassured by having their images reinterpreted into recognisable disease states that enable categorisation and alleviation. It has long been suggested20 that metaphors used in science differ from those of expressive language because they are well-defined and ‘valid’ (a well-chosen metaphor leads to a number of correct inferences). That is, the doctor’s metaphoric system may be regarded as an appropriate way of imposing ordered calm on a disparate mass of expressive data.

### Table 1. Doctor and mutual metaphors: frequency per million words (pmw).

<table>
<thead>
<tr>
<th>Doctor metaphors</th>
<th>Doctor</th>
<th>Patient/companion</th>
</tr>
</thead>
<tbody>
<tr>
<td>An illness is a puzzle</td>
<td>1627</td>
<td>901</td>
</tr>
<tr>
<td>Answer/solution</td>
<td>121</td>
<td>54</td>
</tr>
<tr>
<td>Case</td>
<td>34</td>
<td>3</td>
</tr>
<tr>
<td>A body is a machine</td>
<td>63</td>
<td>17</td>
</tr>
<tr>
<td>System</td>
<td>60</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>77</td>
<td>19</td>
</tr>
<tr>
<td>A doctor is a controller</td>
<td>126</td>
<td>125</td>
</tr>
<tr>
<td>Control</td>
<td>80</td>
<td>78</td>
</tr>
<tr>
<td>Mutual metaphors: similar use</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>Attack</td>
<td>46</td>
<td>17</td>
</tr>
<tr>
<td>Painkiller(s)</td>
<td>32</td>
<td>13</td>
</tr>
<tr>
<td>Fight/battle/defence</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mutual metaphors: dissimilar use</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Urinary tract infections</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reflux</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Skin rashes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rheumatic pain</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pregnancy pain</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Box 1. Patients talking: ‘An illness is beyond description’. The notion of the body as the container of selfhood is of particular interest. Doctors’ more literal use might casually be interpreted as a medical attempt to repackage the psychological as the mechanical. In fact, there are, as we have seen, three occasions (9 pmw) when a doctor, picking up this difficult topic,19 goes to the trouble of explaining a link between body and self. Nevertheless, on the whole, a central difference between doctors and patients appears to be that doctors use a greater frequency of metaphors to do with machines. Similarly, doctors talk of themselves as solvers of problems and controllers of illness, metaphors which hint at knowledge and power in obvious ways.

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Conclusion
This study has categorised the common uses of certain metaphors in primary care consultations. Differences between doctors and patients are noted. Whether the patients influence doctors’ responses or whether doctors’ responses provide adequate explanation and reassurance to patients is worthy of future study. It may also be salutary for practitioners to reflect upon their own repertoire of expressions.

Acknowledgement
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References
14. Veale A. The metaphor homepage: dedicated to computational models of metaphor and analogy.

Table 2. Literal and metaphorical uses of psychological terms: frequency per million words (pmw). All figures are rounded to the nearest whole number.

<table>
<thead>
<tr>
<th>Term</th>
<th>Doctor</th>
<th>Patient/companion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense/tension</td>
<td>34</td>
<td>3</td>
</tr>
<tr>
<td>Relax(ed)/relaxation</td>
<td>63</td>
<td>37</td>
</tr>
<tr>
<td>Nerve(s)/nervous</td>
<td>89</td>
<td>37</td>
</tr>
<tr>
<td>Totals</td>
<td>187</td>
<td>78</td>
</tr>
</tbody>
</table>

Table 3. Frequency per million words (pmw) of descriptors for aches and pains.

<table>
<thead>
<tr>
<th>Term</th>
<th>Doctor</th>
<th>Patient/companion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dull pain</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Stabbing pain</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Sharp pain</td>
<td>0</td>
<td>67</td>
</tr>
<tr>
<td>Severe pain</td>
<td>49</td>
<td>51</td>
</tr>
</tbody>
</table>